IN THE CLAIMS

1. (currently amended) Video coding method of exploiting ~~the~~ temporal redundancy between successive frames in a video sequence, comprising the steps wherein a reference frame, called an I-frame, is first approximated by a collection of basis ~~function~~ functions, called atoms, and wherein either the atoms are quantized, entropy coded and sent to a decoder or [[t]] the original I-frame is encoded and transmitted to the decoder using any frame codec, and wherein following predicted frames, called P-frames, are approximated by [[the]] geometric transformations of the ~~basis functions (atoms)~~ atoms describing the previous frame, wherein the geometric transformations include translations, anisotropic dilations, and rotations, ~~and that~~ the parameters of the geometric transformation are quantized, entropy coded and sent to a decoder in order to reconstruct the predicted frames~~, wherein the I-frame is approximated by a linear combination of N atoms $g_{\gamma_n}(x,y)$:~~

~~$$I(x,y) = \sum_{n=0}^{N-1} c_n g_{\gamma_n}(x,y),$$~~

~~selected in a redundant, structured library and indexed by a string of parameters γ_n representing the geometric transformations applied to the generating mother function g(x,y) where the c_n are weighting coefficients~~.

2. (canceled)

3. (currently amended) Video coding method according to ~~claim 2~~ claim 1, wherein the ~~atoms occurring in the decomposition are chosen using the~~ collection of atoms is a decomposition of the I-frame obtained using a Matching Pursuit algorithm.

4. (previously presented) Video coding method according to claim 1, wherein the parameters and coefficients of the atoms are quantized and entropy coded.

5. (previously presented) Video coding method according to claim 4, wherein the quantization of the parameters and the coefficients vary across time, and the variation is controlled by a rate control unit.

6. (previously presented) Video coding method according to claim 1, wherein the method is used together with a residual frame based texture codec that encodes the differences between the original frames and the ones reconstructed using the compensated atoms.

7 (currently amended) Video coding method according to claim 1, wherein the ~~geometric features (atoms)~~ atoms of the I-frame are computed from the quantized frames at the encoder and decoder and are not transmitted.

8. (currently amended) Video coding method according to claim 1, wherein the ~~geometric features (atoms)~~ atoms are re-computed after each quantized frame at the encoder and decoder and replace the previous prediction.

9. (currently amended) Video coding method according to ~~claim 1~~ claim 11, wherein [[the]] geometric transformations are used to build the library, the geometric transformations are composed of translations, anisotropic dilations and rotations, applied to [[a]] the generating mother function g(x,y) by means of the following change of variables:

$$g_\gamma(x,y)=\frac{1}{\sqrt{a_1 a_2}}g(x_n,y_n), where$$

$$x_n=\frac{\cos\vartheta(x-b_1)-\sin\vartheta(y-b_2)}{a_1}$$

$$y_n=\frac{\sin\vartheta(x-b_1)-\cos\vartheta(y-b_2)}{a_2}$$

10. (previously presented) Video coding method according to claim 9, wherein the generating mother function is of the following form:

$$g(x,y)=(1-x^2)\exp\left(-\frac{x^2+y^2}{2}\right)$$

11. (new) Video coding method according to claim 1, wherein the I-frame is approximated by a linear combination of N atoms $g_{\gamma n}(x,y)$:

$$I(x,y) = \sum_{n=0}^{N-1} c_n g_m(x,y),$$

selected in a redundant, structured library and indexed by a string of parameters γ_n representing the geometric transformations applied to a generating mother function g(x,y) where c_n are weighting coefficients.